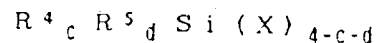
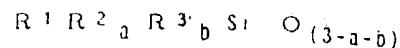


(54) TRANSPARENT CONDUCTIVE COATING FILM

(11) 1-261469 (A) (43) 18.10.1989 (19) JP
 (21) Appl. No. 63-88845 (22) 11.4.1988
 (71) TORAY IND INC (72) TAKASHI TANIGUCHI(1)
 (51) Int. Cl. C09D5 24,C08K9 06,C09D7 12,H01B1 22,H01B5 11

PURPOSE: To obtain the title film having improved surface hardness, durability, transparency, conductivity, and antistatic properties, by mixing specified fine conductive particles with a vehicle and forming a coating film from this mixture.

CONSTITUTION: 100 pts.wt. fine conductive particles having a mean particle diameter of $10\text{Å} \sim 5\mu\text{m}$ and preferably comprising SnO_2 (optionally doped with Sb) or a mixture of SnO_2 with In_2O_3 is surface treated with at least 0.01 pt.wt. carbosilane coupling agent of formula I (wherein $\text{R}^1 \sim \text{R}^3$ are each H, alkyl, alkenyl, aryl, or a hydrocarbon group having halogen, epoxy, glycidoxo, amino, mercapto, methacryloxy or cyano; a and b are each 0~1) to give a component. This component is mixed with a vehicle preferably comprising an organosilicon compound (hydrolyzate) of formula II (wherein R^4 and R^5 are each alkyl, alkenyl, aryl, or a hydrocarbon group having halogen, epoxy, glycidoxo, amino, mercapto, methacryloxy or cyano; X is a hydrolyzable group; c and d are each a). The mixture is applied to a transparent base material to form a coating film thereon, thus giving the title film having a thickness of $0.1 \sim 10\mu\text{m}$.

**(54) CATIONIC ELECTRODEPOSITION COATING COMPOSITION**

(11) 1-261472 (A) (43) 18.10.1989 (19) JP
 (21) Appl. No. 63-90825 (22) 13.4.1988
 (71) KANSAI PAINT CO LTD (72) TADAYOSHI HIRAKI(4)
 (51) Int. Cl. C09D5/44,C09D3 80,C09D5 44

PURPOSE: To improve the smoothness and the film-forming properties at an edge, by incorporating specified fine gel polymer particles containing a particulate pigment.

CONSTITUTION: A polymerizable unsaturated monomer having both vinyl double bonds and hydrolyzable alkoxysilane groups is copolymerized with a polymerizable unsaturated monomer having both vinyl double bonds and cationic groups and, if necessary, a polymerizable unsaturated monomer having both vinyl double bonds and OH groups and a polymerizable unsaturated monomer other than these monomers, thus giving an acrylic polymer (a) having both hydrolyzable alkoxysilane groups and cationic groups. A mixture of component (a) with a particulate pigment (b) having an oil absorption of 100 or higher and a primary particle diameter of $0.5\mu\text{m}$ or smaller in a solid weight ratio of (a) to (b) of 100:1~50 is neutralized with an acid and dispersed in water. This dispersion is heated at 50°C or higher, or crosslinking is effected within the particles in the presence of a silanol condensation catalyst, thus giving fine gel polymer particles (B) containing a particulate pigment. A solution or aqueous dispersion (A) of a cationic electrodeposition coating resin is mixed with an aqueous dispersion of component B to give the title composition containing component B in an amount of 1~40wt.% based on the total resin solids.

(54) ERASER FOR WRITING ERROR

(11) 1-261473 (A) (43) 18.10.1989 (19) JP
 (21) Appl. No. 63-91004 (22) 13.4.1988
 (71) TONBO ENPITSU K.K. (72) KIYOSHI YAMABE(1)
 (51) Int. Cl. C09D5/48

PURPOSE: To obtain the title eraser which gives a matter coating surface after erasing and hiding, does not cause peeling of a coating film, and can increase the drying rate of a rewritten character, by mixing TiO_2 , a specified silica, and a binder.

CONSTITUTION: Sodium silicate is reacted with an acid to give a porous silica having a peak pore distribution at a pore diameter of 50Å or greater and a specified surface of $200\text{m}^2/\text{g}$ or greater. 30~60 pts.wt. opaque white pigment comprising rutile TiO_2 is mixed with 3~20 pts.wt. said porous silica, either a binder consisting of a volatile organic solvent and a resin soluble therein, or an aqueous resin emulsion binder, and if necessary, an antifoaming agent, a dispersant, etc.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP00/05993

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.⁷ C09D201/00, C09D5/24, H01B1/00, H01B1/20,
C09C3/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.⁷ C09D201/00, C09D5/24, H01B1/00, H01B1/20,
C09C3/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI (DIALOG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP, 1-261469, A (Toray Industries, Inc.), 18 October, 1989 (18.10.89) (Family: none)	1,2,5-9,11 10
X	JP, 10-326521, A (Hitachi Chemical Co., Ltd.), 08 December, 1998 (08.12.98) (Family: none)	1,2,5
X	JP, 8-20734, A (Sumitomo Osaka Cement Co., Ltd.), 23 January, 1996 (23.01.96) (Family: none)	1,2,5
Y	JP, 11-172161, A (Kasei Optonix Co., Ltd.), 29 June, 1999 (29.06.99) (Family: none)	10
A	JP, 8-27405, A (Sumitomo Osaka Cement Co., Ltd.), 30 January, 1996 (30.01.96) (Family: none)	3,4

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search
28 November, 2000 (28.11.00)Date of mailing of the international search report
12 December, 2000 (12.12.00)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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